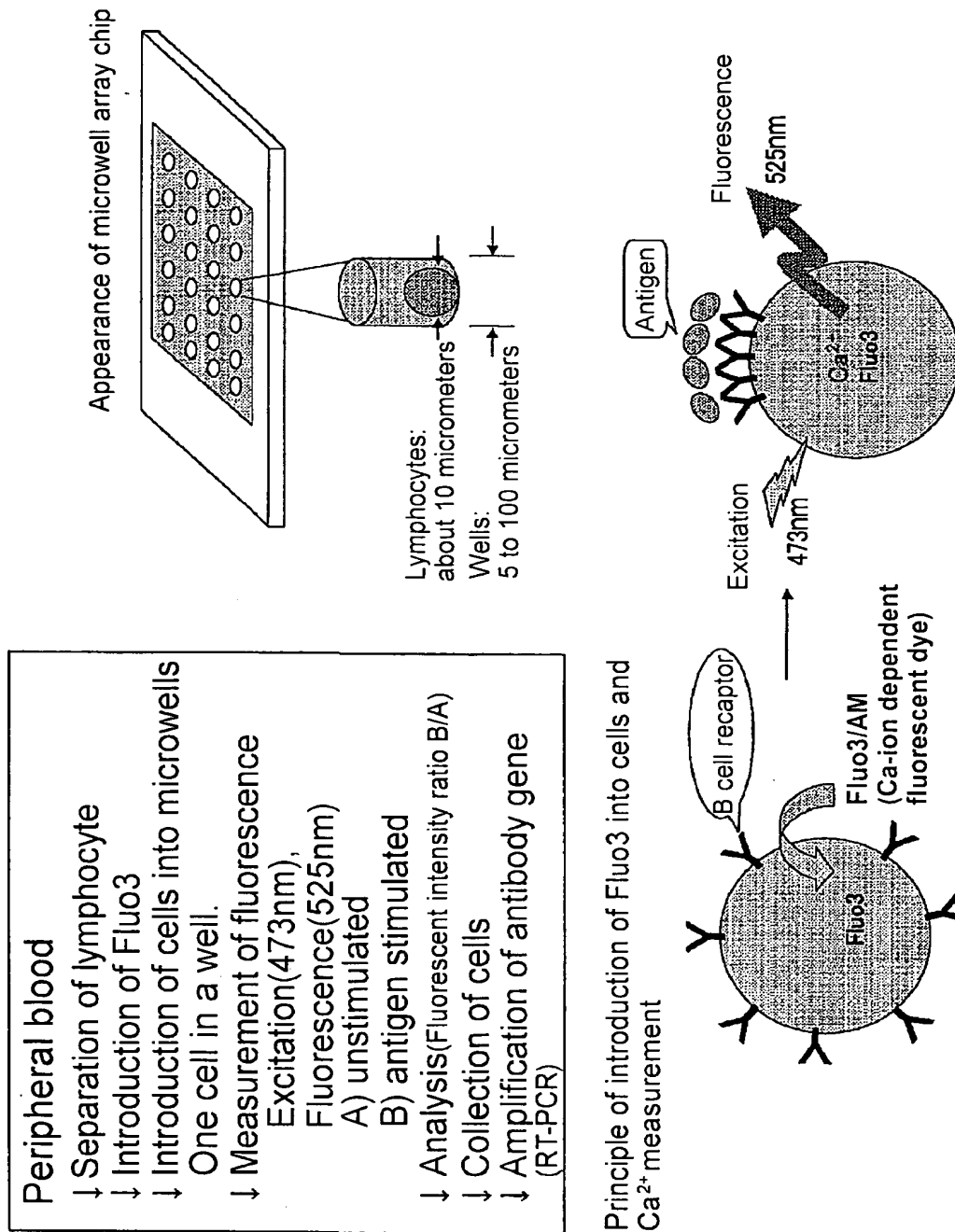


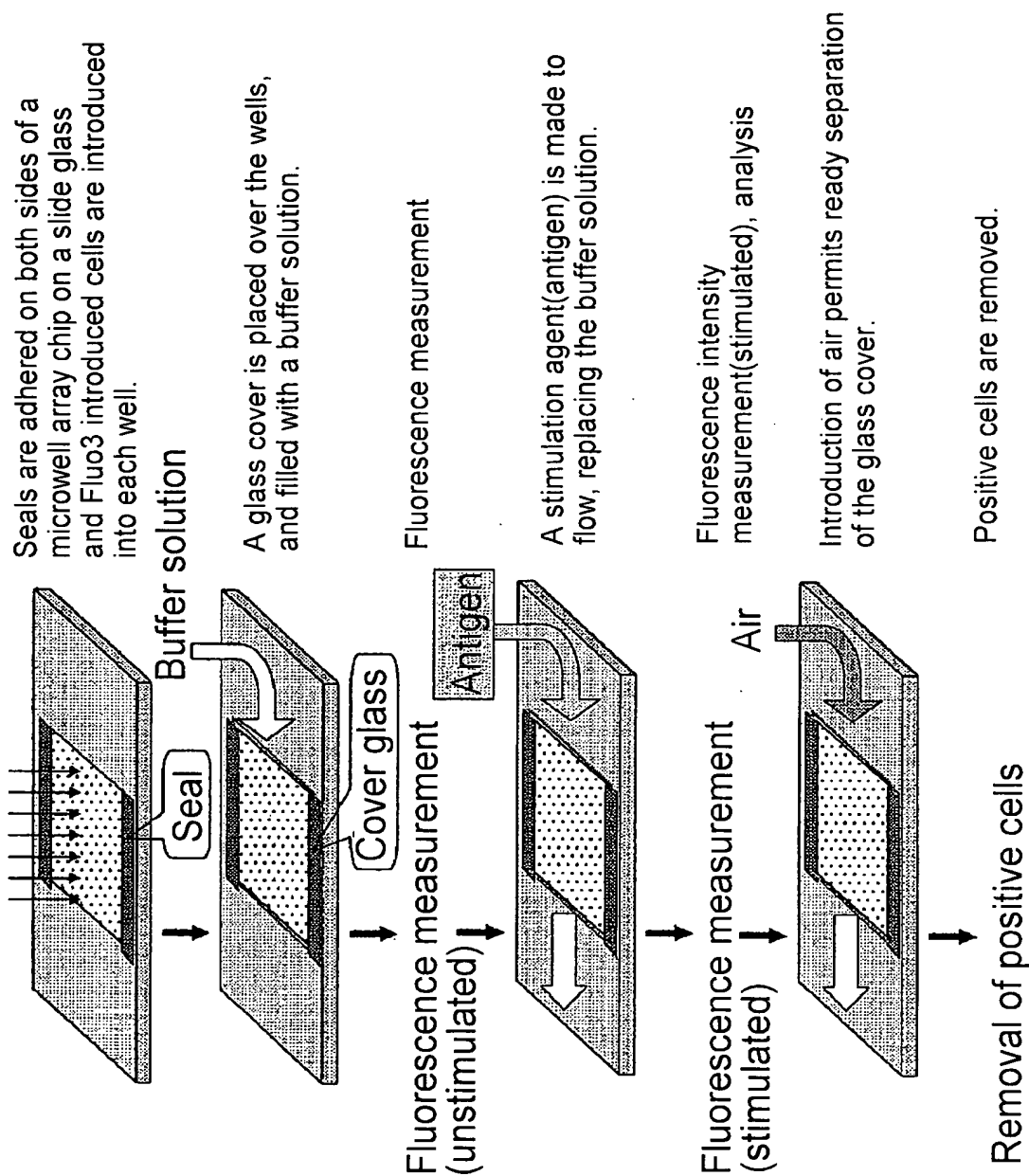
F i g 1



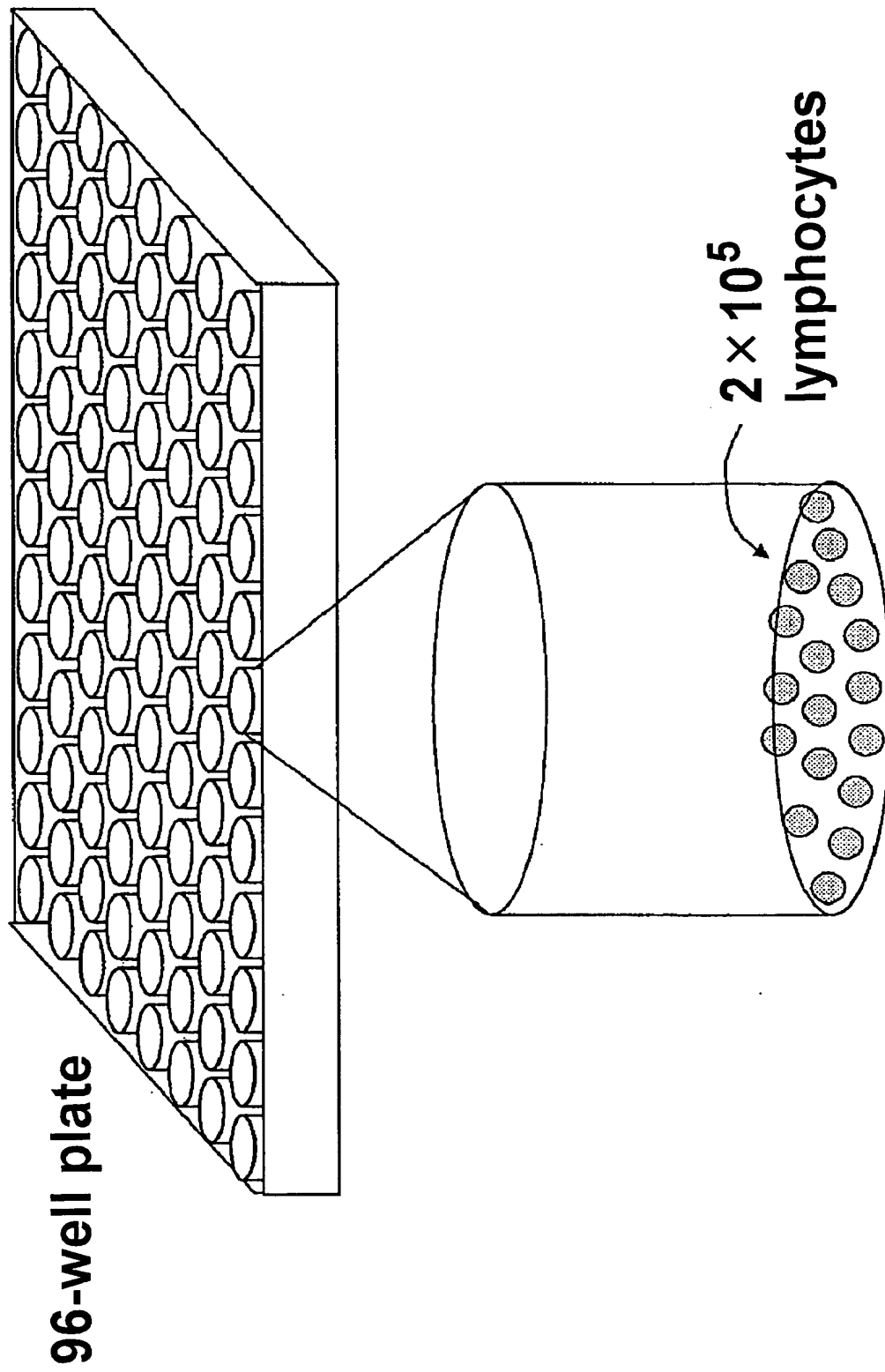
Fluo3/AM is digested with an enzyme in a cell to form Fluo3, Which binds to Ca^{2+} , resulting in generation of fluorescence.
When an antigen binds to a B-cell receptor, Ca^{2+} concentration in a cell increases.

F i g 2

Introduction of cells and antigen stimulation

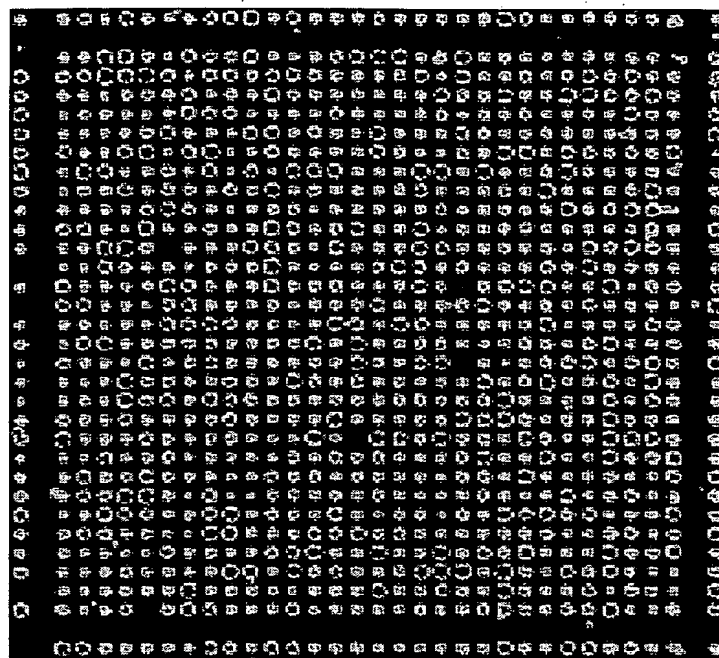


F i g 3

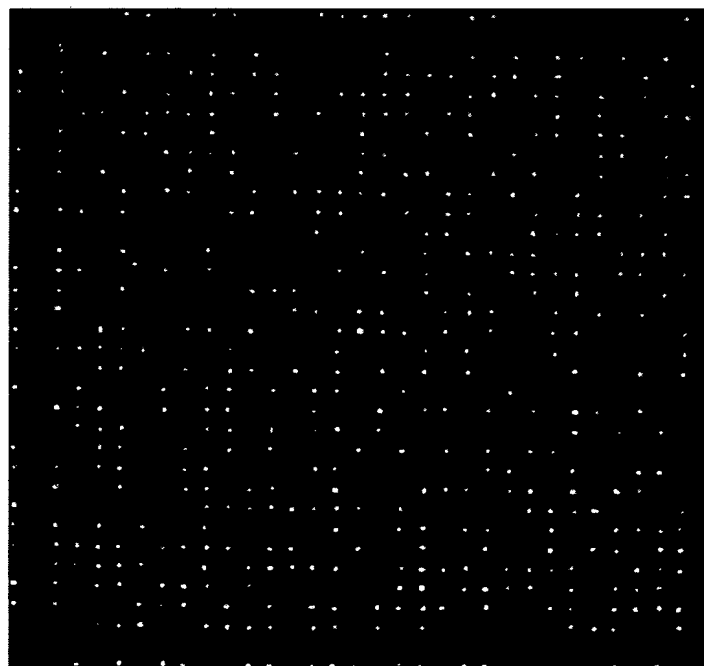


F i g 4

Microarray scanner



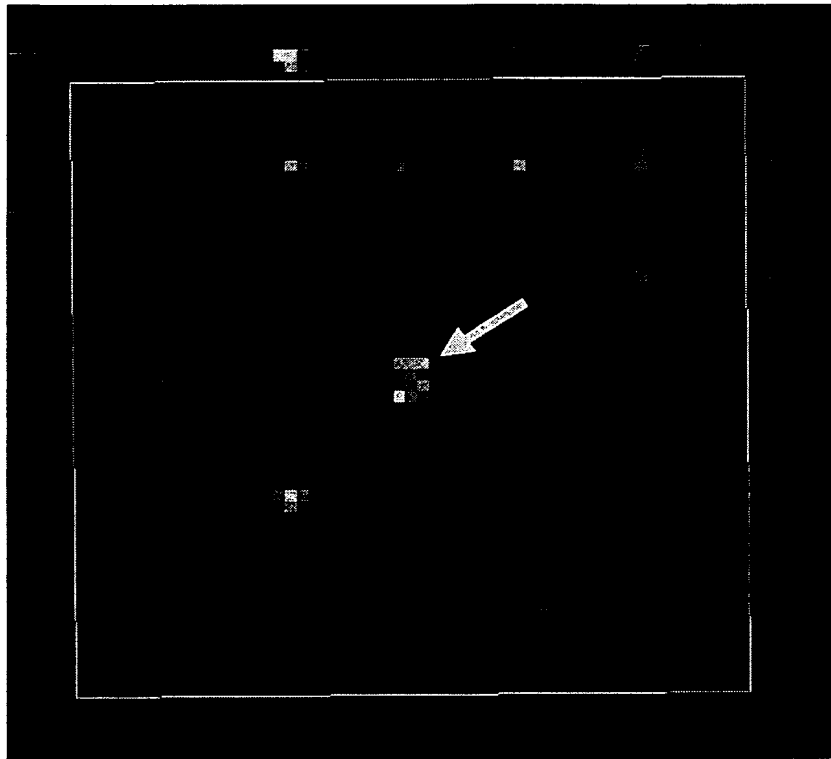
Fluorescence microscopy



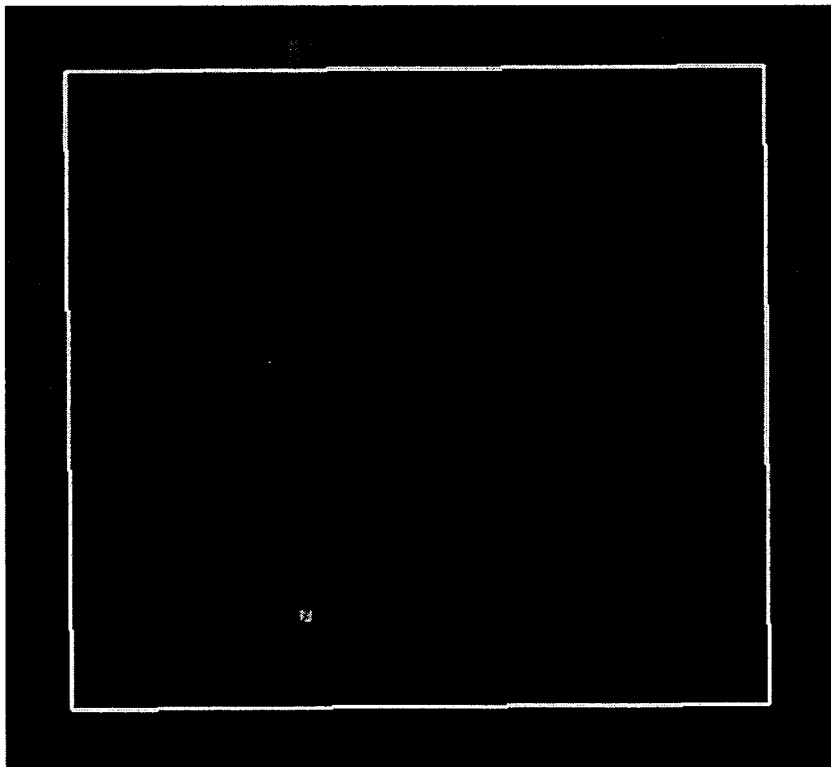
One cluster = 30×30 wells

F i g 5

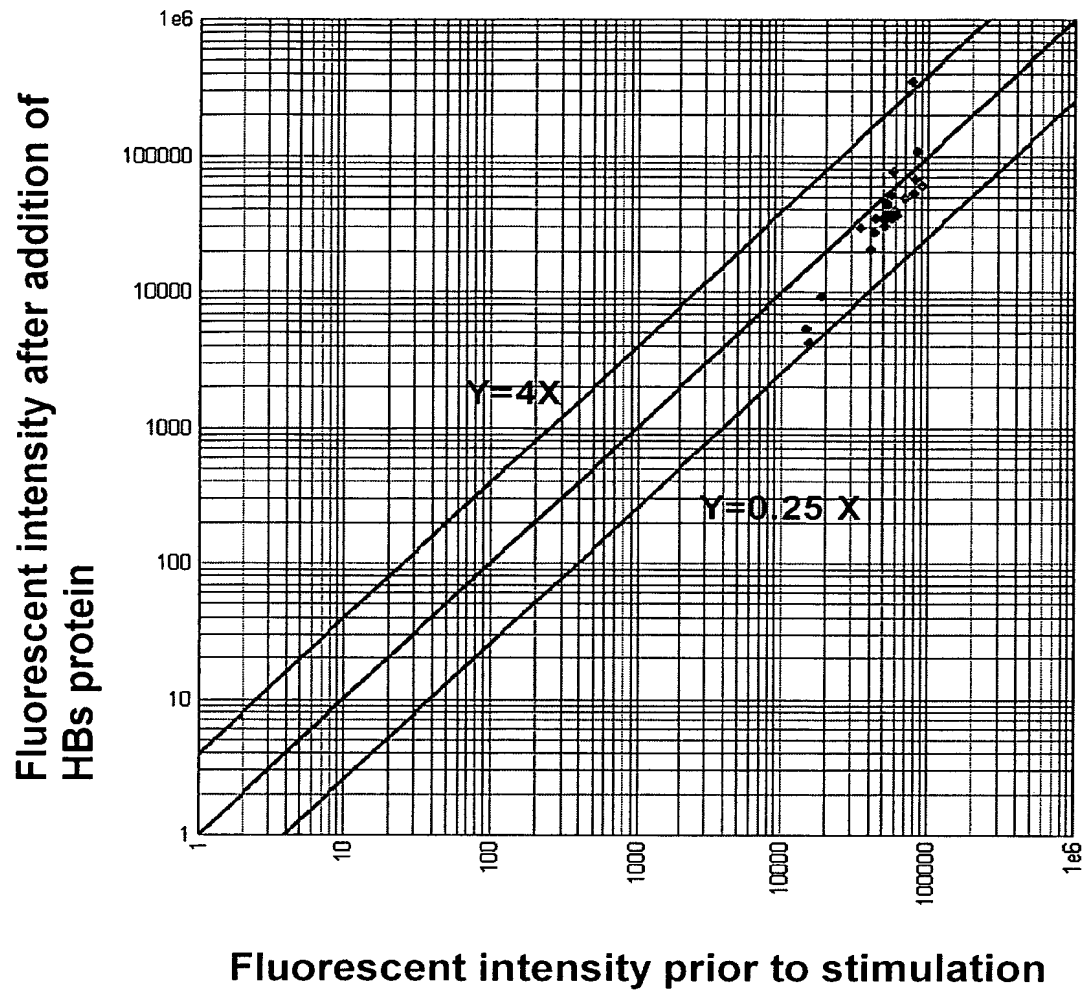
After addition of HBs protein



Prior to stimulation



F i g 6



F i g 7

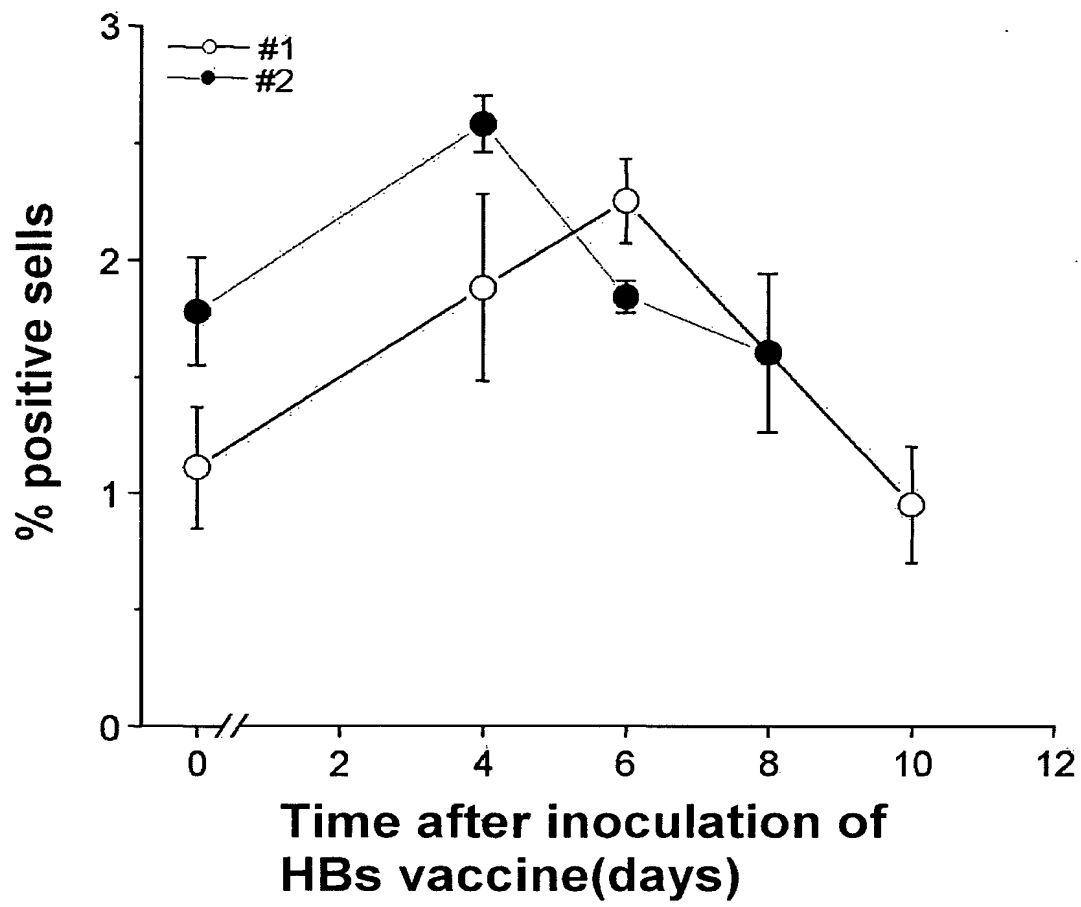
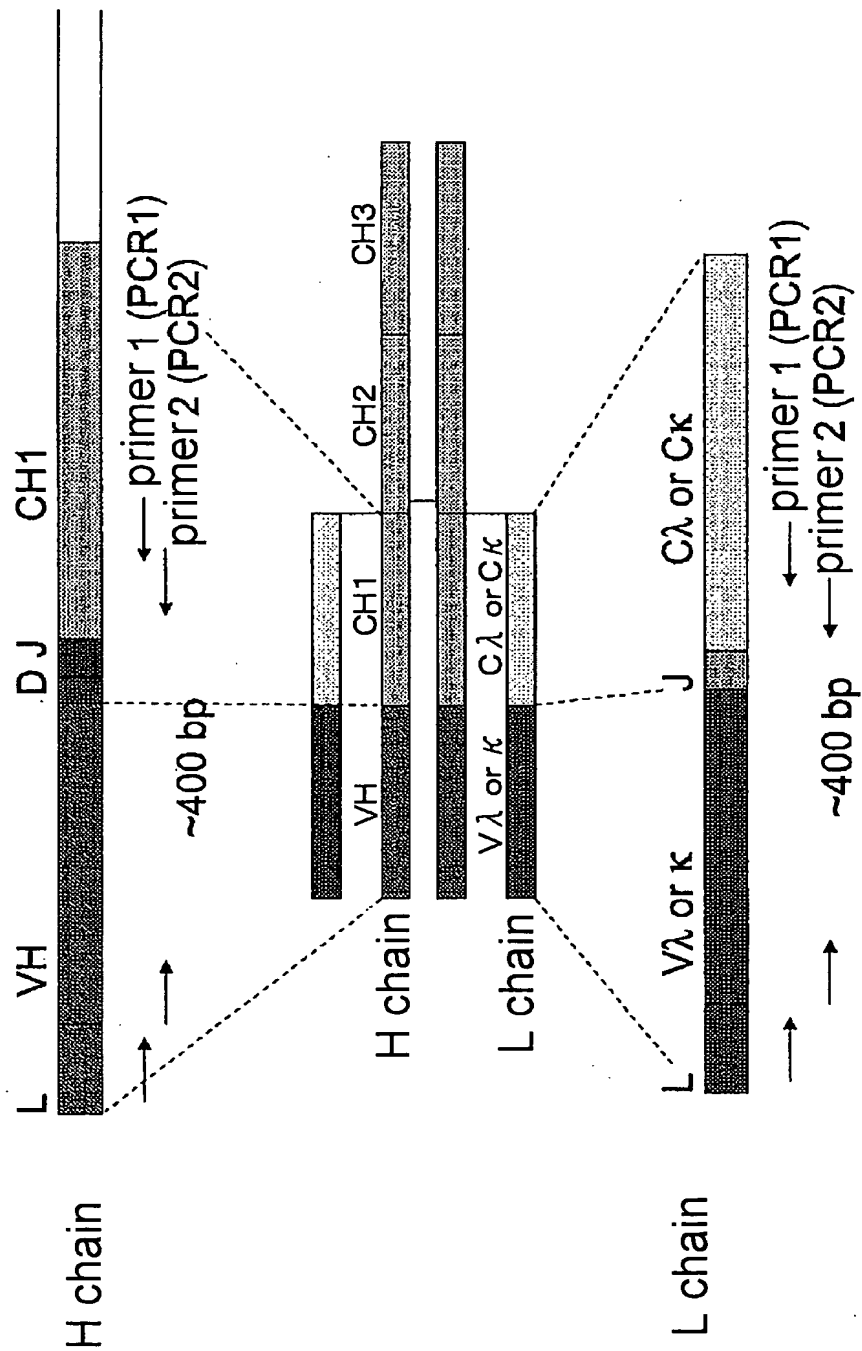


Fig 8

Amplification of antibody gene of B cells Antigen-specific B-cells

↓ RT
↓ PCR1
↓ PCR2

Structure of antibody



F i g 9

1st: 1 cagtctccagccaccctgtctttgtctccaggggcaaagtagccaccctctcctgcnggg 60
 |||||
 2nd: 55 cagtctccagccaccctgtctttgtctccagggg-aaag-agccaccctctcctgcagg 112
 |||||

1st: 61 ccagtcagagtggttagcancactacttagcctgggtaccacagaaaacactggccaggctccc 120
 |||||
 2nd: 113 ccagtcagagtggttagcagctacttagcctgggtaccacagaaac-ctggccaggctccc 171
 |||||

1st: 121 aggtcctnatctatgatgcatctcaacaggggccactggcatcccagccaggttaagtgg 180
 |||||
 2nd: 172 aggtcctcatctatgatgcatc-caacaggggccactggcatcccagccaccttcagtgg 230
 |||||

1st: 181 cagtgggtctgggacagacttcaactctcaaccatcancagccttagagcctgaagattntgc 240
 |||||
 2nd: 231 cagtgggtctgggacagacttcaactctcaaccatcagcagccttagagcctgaagatttgc 290
 |||||

1st: 241 agttnattactgtcancagcgtatcaactggcctctcaactttcggcggaggaccacaggc 300
 |||||
 2nd: 291 agtttattactgtcagcagcgtagcaactgggtgctcaactttcggcggaggaccacagg- 349
 |||||

1st: 301 tggagatcaaacgaaactgtggctgcaccatctgtc 335
 |||||
 2nd: 350 tggagatcaaacgaaactgtggctgcaccatctgtc 384
 |||||

F i g 1 0

1st: 1 ggctcctgtctcaggtgcagctgcaggcagtcggggccagtgactggtgaagccttcggag 60
||||| ||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||
2nd: 48 ggctcctgtcccagctgcagctgcagg-agtcggggccag-gactggtgaagccttcggag 105

1st: 61 accctgtccctcacctgcactgtctctggtggctccatcagcagtagtagttactactgg 120
||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||
2nd: 106 accctgtccctcacctgcactgtctctggtggctccatcagcagtagtagttactactgg 165

1st: 121 ggctggatccgccagccccccagggaagggtggctggagtggtggagtagtctattatagt 180
||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||
2nd: 166 ggctggatccgccagccccccagggaagggtggctggagtggtggagtagtctattatagt 225

1st: 181 gggagcacctactacaacccgtccctcaagagtcgagtcaccatatccgtagacacgtcc 240
||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||
2nd: 226 gggagcacctactacaacccgtccctcaagagtcgagtcaccatatccgtagacacgtcc 285

1st: 241 aagaaccagtttctccctgaagctgagctctgtgaccgccgagacacggctgtgtattac 300
||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| ||||||| |||||||
2nd: 286 aagaaccagtttctccctgaagctgagctctgtgaccgccgagacacggctgtgtattac 345

1st: 301 tgtgcgagacag 312
||||| |||||
2nd: 346 tgtgcgagacag 357